

# *Aertos*<sup>®</sup> 120-UVC

## Industrial Drone

Providing remote UVC disinfecting capabilities for indoor areas, reducing health risks.



*Digital  
Aerolus*<sup>®</sup>

# The Need for the *Aertos 120-UVC* Drone

The need for tools that can combat pathogens has never been greater. In spaces that are high risk for exposure to the COVID-19 (SARS-CoV-2) virus, sending humans to disinfect these areas is a significant health risk.

The new Aertos® 120-UVC drone combines a proven industrial drone with verified UVC disinfection capabilities to reduce health risks for humans.

The Aertos 120-UVC (product SKU: DA-A120UVC) drone provides remote UVC disinfection capabilities for businesses in multiple areas:

- Healthcare facilities - patient rooms, hospital rooms, and waiting areas
- Grocery stores - checkout spaces
- Warehouses - product handling areas
- Airplanes and Public Transit – seats and exposed surfaces
- Business common areas - restrooms, work-rooms and breakroom surface areas

UVC light sanitation technology is currently used in healthcare applications and to disinfect water all over the world. The combination of an industrial, indoor drone with small but powerful UVC LEDs allows more organizations to access and use remote UVC disinfecting tactics quickly. The Aertos 120-UVC can help organizations and businesses needing immediate, deployable, and practical access to UVC disinfection technology.

UVC disinfection is a physical process that disrupts the DNA of harmful microorganisms and destroys their ability to reproduce. UVC light emitted in the wavelength range centered around 265 NM is generally considered the gold standard for effective UVC disinfection.

UVC disinfection is a unique measure of disinfection that does what the other cleaning protocols cannot: UVC inactivates pathogens by damaging their DNA structure, so they cannot reproduce and, ultimately, spread throughout a room or surface.



# *Aertos* 120-UVC Disinfection

Digital Aerolus has partnered with Crystal IS, a U.S.-based manufacturer of high-performance LEDs to produce the new Aertos®120-UVC disinfection drone.

Crystal IS is one of the largest and most sophisticated manufacturers of industrial-grade UVC LEDs. Digital Aerolus developed the 120-UVC disinfection drone using the **Crystal IS' Klaran WD Series UVC LEDs**, specifically designed for healthcare, consumer and commercial water purification.

Klaran WD Series UVC LEDs are compact and cost effective UVC emitters that enable long life water, air, and surface disinfection systems.

Klaran UVC LEDs have been tested by **SGS**, one of the world's leading inspection, verification, testing and certification companies. Klaran WD Series UVC LEDs have also been tested by **EMSL**, a leading third-party microbiological testing facility in New York state.



In addition to third-party testing, Klaran UVC LEDs have undergone rigorous testing via Crystal IS microbiological facilities and ISO 9001:2015 quality systems. All testing performed on the Klaran WD Series UVC LEDs provide the data-driven proof of the reliability, performance and efficacy of the UVC LED products. Download the Klaran WD Series UVC LEDs data sheet [here](#).

[www.DigitalAerolus.com](http://www.DigitalAerolus.com)

## About Digital Aerolus

Digital Aerolus combines artificial intelligence with advanced mathematics to create autonomous technology for vehicles that fly, drive, dive, or swim.

Digital Aerolus offers a line of commercial drones, the Aertos®120, 121, 130, 130IR, & now the 120-UVC to a broad set of customers and their collection of applications. These UAVs are the first application of our overarching autonomous technology, which leverages our patented mathematical framework for flight and awareness.





# Does the *Aertos 120-UVC* Disinfect Against COVID-19?

Many studies have confirmed that UVC energy can be effective for combating SARS-COV (source). However, due to the fact that the pandemic has occurred only in the past few months, the CDC does not have certification protocols in place for COVID-19.

## **IES COVID-19 Report**

In March 2020, the Illuminating Engineering Society (IES) released a report specifically about the use of UVC energy or Germicidal Ultraviolet (GUV) energy to disinfect against COVID-19. IES is a globally recognized technical and educational authority on illumination since its establishment in 1906.

In the IES published the March report to combat the seemingly conflicting statements and opinions about the disinfection capabilities and safety of UVC energy, also called germicidal ultraviolet (GUV). The report is by IES's Photobiology Committee and explains UVC disinfection and its potential to safely reduce the transmission of SARS-CoV-2, the virus that causes COVID-19. **According to the Illuminating Engineering Society (IES) report:**

If the SARS-CoV-2 virus is **directly illuminated by UVC energy at the effective dose level, UVC disinfection role in mitigating COVID-19**, along with other methods of disinfection. The experts at IES compare COVID-19 to a war:

[1] In fighting a war, which this is seen to be, a single weapon is never used; rather, multiple weapons in the armamentarium are exploited. [2] There is no reason not to make full use of UVC with appropriate precautions in this "war" against COVID-19."

"Because the COVID-19 virus (SARS-CoV-2) is so new, the scientific community doesn't yet have a specific deactivation dosage. However, we know the dosage values for comparable viruses in the same SARS virus family".

UVC is UltraViolet C-band, defined by energy with wavelengths of 100 to 280 NM, and naturally is absorbed by the earth's atmosphere before reaching the surface. UVC energy is well characterized by its ability to kill various pathogens and broadly deployed on an industrial scale for disinfection. This is supported by lab and quality data continually collected around the world. This data also supports UVC at 265 NM ability to destroy a variety of bacteria and other pathogens, including lab results for SARS-CoV-1. It has not been thoroughly evaluated for SARS-CoV-2 (COVID-19). Furthermore, Digital Aerolus' Aertos 120-UVC has not been evaluated or tested by the FDA, WHO, CDC, or any other body or laboratory to determine its effect on the SARS-CoV-2 virus that causes COVID-19. UVC's well-understood mechanisms for sanitation is disrupting the RNA and DNA of the cells and molecules receiving the energy. This includes damage to human DNA when directly exposed, leading to an increased risk of cancer. For example, various forms of welding emit UVC and require all humans to shielded from the energy via curtains, distance, welding masks, and the proper covering of all skin. The Aertos 120 UVC is intended for use remotely when humans are not in range of use, because of this cancer risk.



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